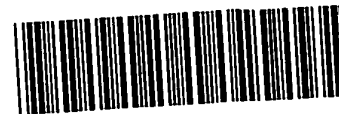


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5/13/02

3 <110> APPLICANT: Small, Kersten M
4 Liggett, Stephen
6 <120> TITLE OF INVENTION: Alpha-2A-adrenergic receptor polymorphisms
8 <130> FILE REFERENCE: 13092
10 <140> CURRENT APPLICATION NUMBER: 09/636,259A
11 <141> CURRENT FILING DATE: 2000-08-10
13 <160> NUMBER OF SEQ ID NOS: 16
15 <170> SOFTWARE: PatentIn version 3.1
17 <210> SEQ ID NO: 1
18 <211> LENGTH: 1170
19 <212> TYPE: DNA
20 <213> ORGANISM: Homo sapiens
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25 ctggtggcca cgctcgatcat ccctttctcg ctggccaacg aggtcatggg ctactggtac 120
27 ttcggaagg cttggtgcga gatctacctg gcgctcgacg tgctcttctg cacgtcgctc 180
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31 tacaacctga agcgcaacgc gcgcgcgcatc aaggccatca tcatcaccgt gtgggtcatc 300
33 tcggcggtca tctccttccc gccgctcatc tccatcgaga agaaggcgcg cgccggcgcc 360
35 ccgacggcg cagagccgg ctgcgagatc aacgaccaga agtggtacgt catctcgctg 420
37 tgcacgggt ccttcttgcg tccctgcctc atcatgatcc tgggtacgt gcgcatctac 480
39 cagatcgcca agcgtcgca cccggtgcca cccagcgcc ggggtccgga cgccgtcgcc 540
41 gcgcggcgcg ggggcaccga gcgcaggccc aacggtctgg gcccgagcg cagcgcgggc 600
43 ccggggggcg cagaggccga accgctgccc accagctca acggcgccc tggcgagccc 660
45 gcgcggcgcg ggcgcgcga cccgacgcg ctggacctgg aggagagctc gtcttccgac 720
47 cagcccgagc ggctccagg gcccccgcga cccgagcgcg gtccccgggg caaaggcaag 780
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53 cgctggcgcg ggcggcagaa ccgcgagaa cgcttcacgt tcgtgctggc cgtgggtcatc 960
55 ggagtgttcg tgggtgtctg gttccccctt ttcttcacct acacgctcac ggcggtcggg 1020
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66 <212> TYPE: DNA
67 <213> ORGANISM: Homo sapiens
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72 ggccggcgccc gggccacccc ttactccctg cagggtgacg tgacgctggt gtgcctggcc 120
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76 agccgcgcgc tcaaggcgcc ccaaaacctc ttctgggtgt ctctggcctc ggccgacatc 240
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82 atcgtgcacc tgtgcgccat cagcctggac cgctactggt ccatcacaca ggccatcgag 420
84 tacaacctga agcgcacgcc gcgcgcgcatc aaggccatca tcatcaccgt gtgggtcatc 480
86 tcggccgtca tctccttccc gccgctcatc tccatcgaga agaagggcgg cggcgggcggc 540
88 ccgcagccgg ccgagccgcg ctgcgagatc aacgaccaga agtggtacgt catctcgtcg 600
90 tgcacggtct ccttcttcgc tccctgcctc atcatgatcc tggctacgt gcgcacctac 660
92 cagatcgcca agcgtcgcac ccgcgtgcca cccagccgcc ggggtccgga cgcgctcgcc 720
94 gcgcgcggcg ggggcaccga gcgcaggccc aagggtctgg gcccgcagcg cagcgcgggc 780
96 ccggggggcg cagaggccga accgctgccc acccagctca acggcgcccc tggcgagccc 840
98 gcgcggggcg ggcgcgcga caccgacgcg ctggacctgg aggagagctc gtcttccgac 900
100 cagcgcgagc ggcctccagg gcccgcaga cccgagcgcg gtccccgggg caaaggcaag 960
102 gcccgcgga gccaggtgaa gccgggcgac agcctgccgc ggcgcggggc gggggcgagc 1020
104 gggatcgga cgccggctgc agggccgggg gaggagcgcg tcggggctgc caaggcgctg 1080
106 cgctggcgcg ggcggcagaa ccgcgagaag cgcttcacgt tcgtgctggc cgtggctac 1140
108 ggagtgttcg tgggtgtgctg gttccccttc ttcttcacct acacgctcac ggcgctcggg 1200
110 tgctccgtgc cagcacgct cttcaaattc ttcttctggt tcggctactg caacagctcg 1260
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118 <211> LENGTH: 450
119 <212> TYPE: PRT
120 <213> ORGANISM: Homo sapiens
122 <400> SEQUENCE: 3

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125 1 5 10 15
128 Glu Ala Pro Gly Gly Gly Ala Arg Ala Thr Pro Tyr Ser Leu Gln Val
129 20 25 30
132 Thr Leu Thr Leu Val Cys Leu Ala Gly Leu Leu Met Leu Leu Thr Val
133 35 40 45
136 Phe Gly Asn Val Leu Val Ile Ile Ala Val Phe Thr Ser Arg Ala Leu
137 50 55 60
140 Lys Ala Pro Gln Asn Leu Phe Leu Val Ser Leu Ala Ser Ala Asp Ile
141 65 70 75 80
144 Leu Val Ala Thr Leu Val Ile Pro Phe Ser Leu Ala Asn Glu Val Met
145 85 90 95
148 Gly Tyr Trp Tyr Phe Gly Lys Ala Trp Cys Glu Ile Tyr Leu Ala Leu
149 100 105 110
152 Asp Val Leu Phe Cys Thr Ser Ser Ile Val His Leu Cys Ala Ile Ser
153 115 120 125
156 Leu Asp Arg Tyr Trp Ser Ile Thr Gln Ala Ile Glu Tyr Asn Leu Lys
157 130 135 140
160 Arg Thr Pro Arg Arg Ile Lys Ala Ile Ile Ile Thr Val Trp Val Ile
161 145 150 155 160
164 Ser Ala Val Ile Ser Phe Pro Pro Leu Ile Ser Ile Glu Lys Lys Gly
165 165 170 175
168 Gly Gly Gly Gly Pro Gln Pro Ala Glu Pro Arg Cys Glu Ile Asn Asp
169 180 185 190
172 Gln Lys Trp Tyr Val Ile Ser Ser Cys Ile Gly Ser Phe Phe Ala Pro
173 195 200 205

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176 Cys Leu Ile Met Ile Leu Val Tyr Val Arg Ile Tyr Gln Ile Ala Lys
177      210                      215                      220
180 Arg Arg Thr Arg Val Pro Pro Ser Arg Arg Gly Pro Asp Ala Val Ala
181 225                      230                      235                      240
184 Ala Pro Pro Gly Gly Thr Glu Arg Arg Pro Asn Gly Leu Gly Pro Glu
185                      245                      250                      255
188 Arg Ser Ala Gly Pro Gly Gly Ala Glu Ala Glu Pro Leu Pro Thr Gln
189                      260                      265                      270
192 Leu Asn Gly Ala Pro Gly Glu Pro Ala Pro Ala Gly Pro Arg Asp Thr
193                      275                      280                      285
196 Asp Ala Leu Asp Leu Glu Glu Ser Ser Ser Ser Asp His Ala Glu Arg
197 290                      295                      300
200 Pro Pro Gly Pro Arg Arg Pro Glu Arg Gly Pro Arg Gly Lys Gly Lys
201 305                      310                      315                      320
204 Ala Arg Ala Ser Gln Val Lys Pro Gly Asp Ser Leu Pro Arg Arg Gly
205                      325                      330                      335
208 Pro Gly Ala Thr Gly Ile Gly Thr Pro Ala Ala Gly Pro Gly Glu Glu
209                      340                      345                      350
212 Arg Val Gly Ala Ala Lys Ala Ser Arg Trp Arg Gly Arg Gln Asn Arg
213                      355                      360                      365
216 Glu Lys Arg Phe Thr Phe Val Leu Ala Val Val Ile Gly Val Phe Val
217 370                      375                      380
220 Val Cys Trp Phe Pro Phe Phe Phe Thr Tyr Thr Leu Thr Ala Val Gly
221 385                      390                      395                      400
224 Cys Ser Val Pro Arg Thr Leu Phe Lys Phe Phe Phe Trp Phe Gly Tyr
225                      405                      410                      415
228 Cys Asn Ser Ser Leu Asn Pro Val Ile Tyr Thr Ile Phe Asn His Asp
229                      420                      425                      430
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233 435                      440                      445
236 Ile Val
237 450
240 <210> SEQ ID NO: 4
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242 <212> TYPE: PRT
243 <213> ORGANISM: Homo sapiens
245 <400> SEQUENCE: 4
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248 1      5      10      15
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252 20      25      30
255 Thr Leu Thr Leu Val Cys Leu Ala Gly Leu Leu Met Leu Leu Thr Val
256 35      40      45
259 Phe Gly Asn Val Leu Val Ile Ile Ala Val Phe Thr Ser Arg Ala Leu
260 50      55      60
263 Lys Ala Pro Gln Asn Leu Phe Leu Val Ser Leu Ala Ser Ala Asp Ile
264 65      70      75      80
267 Leu Val Ala Thr Leu Val Ile Pro Phe Ser Leu Ala Asn Glu Val Met
268 85      90      95

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271 Gly Tyr Trp Tyr Phe Gly Lys Ala Trp Cys Glu Ile Tyr Leu Ala Leu
272          100          105          110
275 Asp Val Leu Phe Cys Thr Ser Ser Ile Val His Leu Cys Ala Ile Ser
276          115          120          125
279 Leu Asp Arg Tyr Trp Ser Ile Thr Gln Ala Ile Glu Tyr Asn Leu Lys
280          130          135          140
283 Arg Thr Pro Arg Arg Ile Lys Ala Ile Ile Ile Thr Val Trp Val Ile
284 145          150          155          160
287 Ser Ala Val Ile Ser Phe Pro Pro Leu Ile Ser Ile Glu Lys Lys Gly
288          165          170          175
291 Gly Gly Gly Gly Pro Gln Pro Ala Glu Pro Arg Cys Glu Ile Asn Asp
292          180          185          190
295 Gln Lys Trp Tyr Val Ile Ser Ser Cys Ile Gly Ser Phe Phe Ala Pro
296          195          200          205
299 Cys Leu Ile Met Ile Leu Val Tyr Val Arg Ile Tyr Gln Ile Ala Lys
300          210          215          220
303 Arg Arg Thr Arg Val Pro Pro Ser Arg Arg Gly Pro Asp Ala Val Ala
304 225          230          235          240
307 Ala Pro Pro Gly Gly Thr Glu Arg Arg Pro Lys Gly Leu Gly Pro Glu
308          245          250          255
311 Arg Ser Ala Gly Pro Gly Gly Ala Glu Ala Glu Pro Leu Pro Thr Gln
312          260          265          270
315 Leu Asn Gly Ala Pro Gly Glu Pro Ala Pro Ala Gly Pro Arg Asp Thr
316          275          280          285
319 Asp Ala Leu Asp Leu Glu Glu Ser Ser Ser Ser Asp His Ala Glu Arg
320          290          295          300
323 Pro Pro Gly Pro Arg Arg Pro Glu Arg Gly Pro Arg Gly Lys Gly Lys
324 305          310          315          320
327 Ala Arg Ala Ser Gln Val Lys Pro Gly Asp Ser Leu Pro Arg Arg Gly
328          325          330          335
331 Pro Gly Ala Thr Gly Ile Gly Thr Pro Ala Ala Gly Pro Gly Glu Glu
332          340          345          350
335 Arg Val Gly Ala Ala Lys Ala Ser Arg Trp Arg Gly Arg Gln Asn Arg
336          355          360          365
339 Glu Lys Arg Phe Thr Phe Val Leu Ala Val Val Ile Gly Val Phe Val
340          370          375          380
343 Val Cys Trp Phe Pro Phe Phe Phe Thr Tyr Thr Leu Thr Ala Val Gly
344 385          390          395          400
347 Cys Ser Val Pro Arg Thr Leu Phe Lys Phe Phe Phe Trp Phe Gly Tyr
348          405          410          415
351 Cys Asn Ser Ser Leu Asn Pro Val Ile Tyr Thr Ile Phe Asn His Asp
352          420          425          430
355 Phe Arg Arg Ala Phe Lys Lys Ile Leu Cys Arg Gly Asp Arg Lys Arg
356          435          440          445
359 Ile Val
360          450
363 <210> SEQ ID NO: 5
364 <211> LENGTH: 22
365 <212> TYPE: DNA

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TIME: 12:21:17

Input Set : A:\Sequences for 13092.txt

Output Set: N:\CRF3\05012002\I636259A.raw

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375 <213> ORGANISM: Homo sapiens
377 <400> SEQUENCE: 6
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386 <400> SEQUENCE: 7
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395 <400> SEQUENCE: 8
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400 <211> LENGTH: 24
401 <212> TYPE: DNA
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404 <400> SEQUENCE: 9
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413 <400> SEQUENCE: 10
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418 <211> LENGTH: 22
419 <212> TYPE: DNA
420 <213> ORGANISM: Homo sapiens
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427 <211> LENGTH: 23
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429 <213> ORGANISM: Homo sapiens
431 <400> SEQUENCE: 12
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436 <211> LENGTH: 23
437 <212> TYPE: DNA
438 <213> ORGANISM: Homo sapiens

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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/636,259A

DATE: 05/01/2002

TIME: 12:21:18

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